

**IN THE CLAIMS****Listing of Claims:**

Claim 1 (previously presented): An optical communication system to extend a range of data communications comprising:

- a mobile communication device with at least one associated optical transmitter and an optical receiver coupled thereto;

- at least one software application capable of executing on the mobile device and communicating a plurality of message bits to at least one external device using the optical transmitter and the optical receiver;

- at least one transmit stack coupled to the optical transmitter so that a bit placed in the transmitter stack is transmitted out the optical transmitter;

- a range extender application which executes without any hardware modification to the mobile device, the range extender application operable for extending a physical range of at least the optical transmitter by taking each message bit sent by the software application and converting the message bit to a set of a plurality of optical transmission pulses to be placed on the transmit stack for optical transmission via the optical transmitter to the external device.

Claim 2 (previously presented): The optical communication system of claim 1, wherein the set of optical transmission pulses are repetitive and identical to each bit placed in the transmit stack.

Claim 3 (currently amended): An apparatus to extend a range of infrared data communication, the apparatus comprising:

- a device for receiving user inputs;

- at least one infrared transmitter and at least one infrared receiver associated with the device;

- at least one software application capable of executing on the device and communicating a plurality of message bits to at least one external device using the infrared transmitter;

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at least one transmit stack coupled to the infrared transmitter so that a bit placed in the transmitter stack is transmitted out the infrared transmitter; and

a range extender application which executes without any hardware modification to the device, the range extender application operable for extending ~~[[the]]~~ a physical range of at least the ~~optical~~ infrared transmitter by taking each message bit sent by the software application and converting the message bit to a set of a plurality of optical transmission pulses to be placed on the transmit stack for optical transmission via the infrared transmitter to the external device.

Claim 4 (original): The apparatus as defined in claim 3, wherein the device for receiving user inputs comprises pre-existing unmodified hardware devices selected from the group of pre-existing unmodified hardware devices of: a personal data assistant, a 3Com Palm Pilot compatible device, and a Windows CE based device.

Claim 5 (previously presented): The apparatus as defined in claim 3, further comprising:  
infrared receiver associated with the device; and  
a display for displaying a visual representation of incoming signal strength by the infrared receiver.

Claim 6 (previously presented): The apparatus as defined in claim 5, wherein the incoming signal strength is measured by counting a number of error packets in pulses received by the infrared receiver.

Claim 7 (previously presented): The apparatus as defined in claim 5, wherein the incoming signal strength is measured by a summation of pulses received by the infrared receiver.

Claim 8 (previously presented): The apparatus as defined in claim 5, wherein the incoming signal strength is measured through determination of at least one pulse width of pulses received by the infrared receiver.

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Claim 9 (currently amended): The method as defined in claim 3, wherein [[the]] an incoming signal strength of the optical transmission pulses is measured and compared to a predefined threshold and in response to the incoming signal strength being greater to a threshold, a byte in a receive stack associated with the infrared receiver is set.

10-19 (cancelled)

Claim 20 (currently amended): A method for extending a range of infrared data communication between a user device and another device, the method on the user device comprising the steps of:

receiving user inputs on a user device;

transmitting optical data as signals from an optical transmitter associated with the user device, whereby the optical data corresponds to a plurality of message bits sent by at least one software application executing on the user device; and

executing a range extender application which executes without any hardware modification to the user device, the range extender application operable for extending a physical range of the optical transmitter by taking each message bit sent by the software application and converting the message bit to a set of a plurality of optical transmission pulses to be placed on a transmit stack for transmission via the optical transmitter to an another device.

Claim 21 (original): The method as defined in claim 20, wherein the step of receiving user inputs includes receiving user inputs on a user device comprising user pre-existing unmodified hardware devices selected from the group of user pre-existing unmodified hardware devices of: a personal data assistant, a 3Com Palm Pilot compatible device, and a Windows CE based device.

Claim 22 (previously presented): The method as defined in claim 20, further comprising: displaying, on a display, a visual representation of incoming signal strength by an optical receiver associated with the user device.

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Claim 23 (currently amended): A computer readable medium containing programming instructions for extending a range of infrared data communication between a user device and another device, ~~the method on the user device~~, the computer readable medium comprising the programming instructions of:

- receiving user inputs on the user device;
- transmitting optical data as signals from an optical transmitter associated with the user device, whereby the optical data corresponds to a plurality of message bits sent by at least one software application executing on the user device; and
- executing a range extender application which executes without any hardware modification to the user device, the range extender application operable for extending a physical range of the optical transmitter by taking each message bit sent by the software application and converting the message bit to a set of a plurality of optical transmission pulses to be placed on a transmit stack for transmission via the optical transmitter to an another device.

Claim 24 (original): The computer readable medium as defined in claim 23, wherein the programming instructions of receiving user inputs includes receiving user inputs on a user device comprising user pre-existing unmodified hardware devices selected from the group of user pre-existing unmodified hardware devices of: a personal data assistant, a 3Com Palm Pilot compatible device, and a Windows CE based device.

Claim 25 (previously presented): The computer readable medium as defined in claim 23, further comprising the programming instruction of:

- displaying, on a display, a visual representation of incoming signal strength by the optical receiver associated with the user device.